Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

February 2, 2021

Kathleen A. Theoharides
Secretary of Environment and Energy
Executive Office of Energy and
Environmental Affairs
100 Cambridge Street, Suite 900
ATTN: MEPA Office
Boston, MA 02114

RE: ENF Review. EOEEA 16311
TAUNTON. Aries Taunton Biosolids
Gasification Project, Taunton, MA at 360
East Britannia Street

Dear Secretary Theoharides,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Environmental Notification Form (ENF) for the Aries Taunton Biosolids Gasification Project, Taunton, MA at 360 East Britannia Street, Taunton, Massachusetts (EOEEA 16311). The Project Proponent provides the following information for the Project:

The Project sustainably manages biosolids using a core technology, fluidized bed gasification, to convert biosolids into synthesis gas and reuses the gas in a closed loop drying system keeping up to 470 tons per day of municipal biosolids out of landfills and avoiding land application while reducing the use of fossil fuels. The gasifier produces Biochar, a beneficial product that can be used in multiple applications including as a feedstock for the production of cement and concrete (as a replacement for fly ash), and as a soil amendment. If the gasifier is down for an extended period of time, then the dried biosolids can be sold directly as Class A (Type I) biosolids for use as a fertilizer or in soil remediation.

The Project will occupy approximately 2 acres for its equipment and up to 3 acres for temporary laydown during construction. The final overall footprint will be 2 acres, all of which is previously disturbed (and approximately all but 0.25 acres of which is impervious resulting in approximately 0.25 acre of new impervious area). The Project life is Projected to be approximately 20 years. The Project will require delivery of biosolids to the site by up to 23 trucks per day (46 trip ends) plus 30 employee vehicles (60 trip ends), but this will be a decrease in truck traffic when compared to the recent use of the site as an active landfill and drop off center (485 trip ends). Both activities have been significantly reduced so there are now about 100 trip ends. The municipal infrastructure is well equipped to handle these requirements. This traffic will not increase over the life of the Project so no additional infrastructure upgrades will be required in the future.

The facility will use approximately 75,000 gallons per day of water for cooling tower makeup and will produce approximately 100,000 gallons per day of wastewater from the biosolids dryer condensate and cooling tower

blowdown. The local sewer lines and wastewater treatment plant are equipped to handle this additional discharge and will not require any upgrades. A payment will be made to the City of Taunton to reduce existing Infiltration/Inflow (I/I) in the sewers.

Bureau of Water Resources Comments

Wetlands. Based on a review of the ENF, there are no proposed wetland impacts resulting from the Project. Therefore, there will be no comment from the Wetlands Program on the ENF.

Wastewater. The Proponent is proposing to process and reuse waterborne pollutants at this Project and will seek an Approval of Suitability (AOS) under 310 CMR 32.00 for a portion of the residuals process.

Other applicable wastewater regulations include 257 CMR 2.00: Certification of Operators of Wastewater Treatment Facilities, 314 CMR 7.00: Sewer System Extension and Connection Permit Program, and 314 CMR 12.00: Operation, Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers.

Compliance with 314 CMR 7.00 will be accomplished through local permitting with the City of Taunton Industrial Pretreatment Program. The Proponent has identified this in the ENF and will pay the appropriate connection fee along with any associated Infiltration and Inflow mitigation fees. The Proponent has identified the need for an Approval of Suitability under 310 CMR 32.00.

MassDEP will continue to work with the Proponent to determine the appropriate elements of a permit application and the operations of the Project.

Stormwater Management/National Pollutants Discharge Elimination System (NPDES) Permit. The Proponent has identified that the Project may need a Construction General Permit and/or a Multisector Stormwater Permit under the NPDES program.

Underground Injection Control. The Proponent should know that the construction of conveyances of stormwater through underground stormwater infiltration structures are subject to the jurisdiction of the MassDEP *Underground Injection Control (UIC)* program. These structures must be registered with MassDEP UIC program through the submittal of a BRP WS-06 UIC Registration application through MassDEP's electronic filing system, eDEP. The statewide UIC program contact is Joe Cerutti, who can be reached at (617) 292-5859 or at joseph.cerutti@state.ma.us . All information regarding on-line (eDEP) UIC registration applications may be obtained at the following web page under the category "Applications & Forms": https://www.mass.gov/underground-injection-control-uic.

Bureau of Waste Site Cleanup Comments

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are no listed MCP disposal sites located at or in the vicinity of the property that would appear to impact the proposed Project area. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php Under "Available Data Layers"

select "Regulated Areas", and then "DEP Tier Classified 21E Sites". MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite

The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification to MassDEP may be required pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000). If oil and/or hazardous material is encountered a Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions and/or conduct response actions. The BWSC may be contacted for guidance if questions arise regarding cleanup.

Bureau of Air and Waste (BAW) Comments

Air Quality. Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor or noise. To determine the appropriate requirements please refer to:

310 CMR 7.09 Dust, Odor, Construction, and Demolition
310 CMR 7.10 Noise

The Proponent has committed to writing and complying with an Environmental Construction Plan to address these issues during construction and will apply for an Air Quality permit for the operation of the Project.

Comprehensive Plan Application ("CPA")

As stated in the ENF, a nonmajor Comprehensive Plan Application is required for emissions to the atmosphere. The CPA is required to establish Best Available Control Technology ("BACT") for emissions from the facility. Additionally, the CPA will require modeling of facility emissions to determine ambient impacts of pollutants and to ensure compliance with the National Ambient Air Quality Standards ("NAAQS") and MassDEP's Allowable Ambient Limits ("AALs") and Threshold Effects Exposure Limits ("TELs").

The regenerative thermal oxidizer used to control emissions from the facility will be operated at an elevated temperature to ensure destruction of Per- and polyfluoroalkyl substances ("PFAS"). The CPA will need to contain adequate documentation, including any available test data such that MassDEP can concur with the oxidizer's capacity to control PFAS.

The Plan Approval application should identify the sound sources, nearby receptors, measures to prevent or suppress sound, and the predicted level of sound the facility will contribute to the area compared to background levels at the property line and at receptor locations. Prior to submitting a Plan Approval application, the Proponent should consult with MassDEP's regional air permitting staff on how to determine existing background levels, identify nearby receptors, and predict the Project's sound impacts.

The Proponent must propose sound suppression measures that result in the lowest sound level increase above background and that are technologically and economically feasible. Consistent with MassDEP's Noise Policy (DAQC Policy 90-001), a 10 db(A) increase over background is the maximum that could be approved by MassDEP; however, it is not sufficient for an applicant to propose sound suppression measures that just meet the 10 db(A) maximum if there are feasible measures that can result in quieter operations. In keeping with the noise regulation, the focus should be on preventing unnecessary emissions of sound that may cause or contribute to noise. This is consistent with how MassDEP requires applicants to analyze other air pollutant emissions from proposed facilities and to demonstrate how they can be minimized. The Proponent should also

coordinate with the city in which the Project is located to determine if a local noise ordinance or regulation must be followed.

Construction-Related Measures
MassDEP requests that all non-road diesel equipment rated 50 horsepower or greater meet EPA's Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, the Proponent should then use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review. The Proponent has committed to meet these requirements during construction.

Massachusetts Idling Regulation
The ENF reports that the Project Proponent proposes to comply with the unnecessary idling requirements of 310 CMR 7.11. MassDEP reminds the Proponent that unnecessary idling (*i.e.,* in excess of five minutes), with limited exception, is not permitted during the construction and operations phase of the Project (Section 7.11 of 310 CMR 7.00). With regard to construction period activity, typical methods of reducing idling include driver training, periodic inspections by site supervisors, and posting signage. In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent install permanent signs limiting idling to five minutes or less on-site. The Proponent has committed comply with the idling requirements.

Spills Prevention. A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases. The Proponent has committed to a spill contingency plan during construction and should have a similar plan during the operation of the Project.

Hazardous Waste Management. If any occupant of the Project generates hazardous waste and/or waste oil, that entity must be properly registered with the MassDEP in accordance with 310 CMR 30.000 for legally generating and managing regulated waste. The Proponent is advised to consult at this MassDEP website https://www.mass.gov/guides/hazardous-waste-generation-generators to determine if the Proponent qualifies as a generator of hazardous waste and/or waste oil.

Solid Waste Management.
1. The following Solid Waste permits are required for the proposed biosolid gasification Project:
   a. A Site Suitability Report for a Major Modification of an Existing Site Assignment (BWP SW 38);
   b. Authorization to Construct a Large Handling Facility (BWP SW 05);
   c. Authorization to Operate a Large Handling Facility (BWP SW 06); an
2. A Beneficial Use Determination (BWP SW 39) for the use of secondary materials (i.e., BioChar) in commercial products. MassDEP would like to note that site assignment permits, described in comment 1.a above, are unlike all MassDEP solid waste permits, in that MassDEP does not make the decision whether to site assign or not site assign a property. MassDEP review only considers the Site Suitability Report Application and whether a parcel of land meets specific criteria for use as the site for a solid waste management facility. If the site meets all siting criteria, MassDEP issues a Site Suitability Report to the local Board of Health with a

positive determination or a negative determination if the site does not meet all siting criteria. However, the local Board of Health will ultimately decide whether to approve or deny a Site Assignment for a proposed facility.

3. As part of the site assignment application process, the Proponent intends to request a waiver from one of the General Site Suitability Criteria as defined at 310 CMR 16.40(4)(h), Size of Facility. The Site Assignment Regulations at 7310 CMR 16.40(6) govern the waiver process.

   Under 310 CMR 16.40(4)(h), Size of Facility is defined as. "No site shall be determined to be suitable or be assigned as a solid waste management facility if the size of the proposed site is insufficient to properly operate and maintain the proposed facility. The minimum distance between the waste handling area or deposition area and the property boundary for the facility shall be 100 feet, provided that a shorter distance may be suitable for that portion of the waste handling or deposition area which borders a separate solid waste management facility."

   Specifically, the Proponent intends to request a waiver with respect to the property line setback within the Size of Facility criteria, which requires that "the minimum distance between the waste handling area or deposition area and the property boundary for the facility shall be 100 feet."

   Page 6 of the ENF states that the Proponent intends to seek a waiver to locate the waste handling area for biosolids receipts and the dryers - less than 100 feet from the property boundary. As defined by 310 CMR 16.02 Waste handling area is defined as an "area used for the processing, storage, transfer or treatment of solid waste, excluding weigh stations or access roads. According to the preliminary information included in the ENF, the following areas appear to be waste handling areas:

   - The entire receiving building;
   - The drying and gasification area; and
   - All biosolid conveyance structures between the receiving building and the drying and gasification area.

4. The DEIR should identify any additional areas that meet the definition of a waste handling area. The Proponent should submit a site plan depicting the proposed facility with the proposed waste handling area clearly delineated on the plan. MassDEP recommends that the Proponent schedule a meeting with MassDEP to discuss the defining characteristics of a waste handling area, prior to the submission of the DEIR.
5. As mentioned in comment 1.d above, the Proponent intends to apply for a Beneficial Use Determination ("BUD") for the use the BioChar in commercial products in accordance with 310 CMR 19.060. MassDEP recommends that the Proponent attend a pre-application meeting with the Department prior to filing a BUD application. The Department will require the analytical results from the Linden, NJ facility as part of the application.
6. MassDEP requires that a traffic study be included with the Site Suitability Report pursuant to 310 CMR 16.40(4)(b) and recommends that the Proponent discuss the scope of the traffic study with MassDEP.
7. The ENF states that if the gasifier is down or if there are more dried solids than can be processed by the gasifier - some dried solids may be transported off site and sold as Class A biosolids. During the MEPA site visit, the Proponent indicated that the dry solids will be handled and sold as Class A biosolids only when the gasifier is down. The Department recommends the Proponent clarify this discrepancy in the DEIR.

8. The ENF states "The site is currently used for Residential drop-off of recyclables and also as a roadway access point to the adjacent Landfill; these uses will be relocated." The City of Taunton should consult with the Department to determine whether a permit is required.

If you have any questions regarding the Solid Waste Management Program comments above, please contact Mark Dakers at (508) 946-2847.

Environmental Justice Comments. The City of Taunton is an Environmental Justice ("EJ") community meeting all three criteria (minority, income, and English isolation). The proposed Project is not located within an area with an EJ Population, but there are EJ Populations within 1 mile of the proposed Project.

The ENF states that the proposed Project exceeds the MEPA thresholds listed in 301 CMR 11.03(5)(a)(6) and 301 CMR 11.03(5)(b)(4)(a) - triggering the requirement for filing an Environmental Notification Form and a mandatory Environmental Impact Report. Pursuant to the 2017 EEA EJ Policy any Project that exceeds the ENF thresholds for air, solid and hazardous waste, or wastewater and sewage sludge treatment and disposal and involves a Project site located within one mile of an EJ population will be required to implement enhanced public participation under MEPA.

Regarding EJ Populations, the ENF states that "significant efforts to provide enhanced notice and to minimize impacts on that community are underway"; however, details are not provided to demonstrate how the Project will meet the enhanced public participation requirements in the EJ Policy. In the subsequent MEPA DEIR filing, the Proponent should specify how the Project will meet the requirements of the EJ policy. MassDEP recommends the Proponent consult with MassDEP and/or the EEA's Environmental Justice Director to ensure compliance with the EJ Policy.

MassDEP recommends the following outreach tools listed below:

- Non-Traditional Information Repositories (houses of worship, community centers, along with the traditional repositories – libraries, government offices)
- Contact EJ Community Leaders
- Alternative media outlets to provide public notice (local public broadcasting station, social media, community, or ethnic newspapers)
- Ensure notice to the community prior to and during the public meeting and permitting process to ensure the community has opportunities to get involved.

Since the Project involves new technology and if successfully permitted would be the first of its kind in Massachusetts, MassDEP recommends that outreach efforts include an educational component. MassDEP recommends the Proponent develop and distribute a fact sheet which includes a summary of the Project and potential Project impacts, opportunities for public participation, photos of similar facilities, and instructions on how to learn additional information on the Project.

If any future public meetings will be held virtually due to COVID-19, MassDEP recommends that in the subsequent MEPA filing, the Proponent evaluate how a virtual format could impact public participation.

Additionally, MassDEP recommends that Project-related air pollution and environmental impact information be shared with EJ communities in alternative format (translation, interpreter services) if applicable. This information should be provided using terms that are easily understood in an effort to ensure the community understands the Project, its potential impacts, and can provide meaningful input.

Compliance with Waste Ban Regulations: Waste materials discovered during construction that are determined to be solid waste (e.g., construction and demolition waste) and/or recyclable material (e.g., metal, asphalt, brick, and concrete) shall be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations including 310 CMR 19.017: Waste Bans. Waste Ban regulations prohibit the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items at solid waste facilities in Massachusetts, including, but not limited to, metal, wood, asphalt pavement, brick, concrete, and clean gypsum wallboard. The goals of the waste bans are to: promote reuse, waste reduction, or recycling; reduce the adverse impacts of solid waste management on the environment; conserve capacity at existing solid waste disposal facilities; minimize the need for construction of new solid waste disposal facilities; and support the recycling industry by ensuring that large volumes of material are available on a consistent basis. Further guidance can be found at: https://www.mass.gov/guides/massdep-waste-disposal-bans

MassDEP recommends the Proponent consider source separation or separating different recyclable materials at the job site. Source separation may lead to higher recycling rates and lower recycling costs. Further guidance can be found at: https://recyclingworksma.com/construction-demolition-materials-guidance/

Asphalt, brick and concrete (ABC) rubble, such as the rubble generated by the demolition of buildings or other structures must be handled in accordance with the Solid Waste regulations. These regulations allow, and MassDEP encourages, the recycling/reuse of ABC rubble. The Proponent should refer to MassDEP's Information Sheet, entitled " Using or Processing Asphalt Pavement, Brick and Concrete Rubble, Updated February 27, 2017 ", that answers commonly asked questions about ABC rubble and identifies the provisions of the solid waste regulations that pertain to recycling/reusing ABC rubble. This policy can be found on-line at the MassDEP website: https://www.mass.gov/files/documents/2018/03/19/abc-rubble.pdf

Climate Change / GHG

Climate Change – Greenhouse Gas Emissions. The Aries Taunton Biosolids Gasification Project is subject to the May 5, 2010 version of the MEPA Greenhouse Gas Emissions Policy and Protocol ("the Policy") because it requires an Environmental Impact Report (EIR). The policy is available on MEPA's website: http://www.env.state.ma.us/mepa/downloads/GHG%20Policy%20FINAL.pdf

The Project requires the Proponent to calculate emissions under two scenarios. The first is the Project's baseline direct and indirect mobile and stationary source emissions using the version of the Massachusetts State Building Code in effect at the time of the ENF filing. The second scenario, the "preferred alternative", requires the Proponent to outline and commit to a series of mitigation measures that will help reduce GHG emissions from the proposed Project's baseline, calculate the direct and indirect mobile and stationary source emissions and show the emissions reductions and energy saving estimated to be achieved. The Proponent should also discuss the rationale and emissions reduction potential of measures not selected.

The Department encourages developers to consider design options that will allow them to cost effectively integrate efficiency or renewable energy measures in future when it is more financially or technically feasible. The Proponent should not discount mitigation measures even if it not currently feasible to quantify the GHG reduction impact including recycling of construction, office and residential materials as well as water conserving approaches such as low flow plumbing fixtures, gray water reuse, and low impact landscaping and irrigation designs. All these measures will be considered when evaluating whether the Project mitigated its GHG emissions to the greatest practicable extent.

Additionally, MassDEP has identified several measures worthy of consideration in the subsequent filing for the new building, and adoption into the Project, where feasible, detailed below. In the event that the Proponent is not able to adopt one of these measures, the subsequent filing must provide technical and cost information to document the rationale for not making a commitment to a mitigation recommendation.

- Building Orientation- The subsequent filing needs to note clearly how the buildings will be oriented, why, and the expected impacts on energy usage including solar gain, daylighting and effect on proposed and future solar energy collection systems.
- Duct Insulation- Duct insulation is the baseline required by code. To enhance efficiency, the subsequent filing should note, and construction should reflect, that all ducts will be sealed with mastic, tested and then insulated, since duct leakage can be a major factor in energy losses.
- Roof and Wall Insulation- The Proponent should evaluate using the highest R-value insulation possible. In general, providing the best building envelope possible provides the greatest gains in energy savings for building operations and insulation is generally very cost effective.
- High-Albedo Roofing Materials – The subsequent filing should fully consider these roofing materials, which are highly reflective and reduce cooling requirements for buildings.
- On-site renewable energy – At a minimum, buildings should be oriented, and roofs should be constructed to support the added weight of a solar photovoltaic (PV) system for potential installation during Project construction or at a future date. It should be noted that a rooftop PV system operates even more efficiently, due to added reflectivity, when installed on a high-albedo roof. Considering the support of subsidies through the Commonwealth Solar and RPS programs, a life-cycle cost analysis should be done to evaluate the installation of a PV system during Project construction under two scenarios: 1) construction, ownership and operation of a PV system by the building owner; or 2) construction, ownership, and operation of a PV system by a third party that will then enter into a long-term power purchase agreement with the building owner for the electricity produced by the system. If neither of these scenarios is economically feasible at this time, the Project should continue to consider the opportunity for installing PV at a future date and state their willingness to host a third-party owned PV array under a favorable power purchase agreement.

Proposed s.61 Findings

The "Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form" may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each

State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this NPC. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,

Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
David Johnston, Deputy Regional Director, BWR
Gerard Martin, Deputy Regional Director, BWSC
Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, ADMIN
Dan Gilmore, Wetlands and Waterways, BWR
Andrew Poyant, Wetlands and Waterways, BWR
Carlos Fragata, Wetlands and Waterways, BWR
Joe Cerutti, Underground Injection Control Program, BWR/Boston
David Burns, Municipal Services, BWR
Deneen Simpson, Environmental Justice, BP&E/Boston
Duane LeVangie, Chief, Water Management Act, BWR/Boston
Mark Dakers, Solid Waste, BAW
Alison Cochrane, Solid Waste, BAW
Allen Hemberger, Site Management, BWSC